

Regional Director, Bureau of Sport Fisheries
& Wildlife, Portland, Oregon

January 7, 1972

Refuge Manager, Medicine Lake Refuge
Medicine Lake, Montana

1972 Annual Water Program - Medicine Lake NWR

Attached for your review is the 1972 Annual Water Program for Medicine
Lake Refuge, Lamesteer Refuge and the Northeastern Montana Wetlands.

A handwritten signature in cursive script, reading "Donald N. White". The signature is written in dark ink and is positioned above the printed name.

Donald N. White

MEDICINE LAKE NATIONAL WILDLIFE REFUGE

MEDICINE LAKE, MONTANA

ANNUAL WATER PROGRAM - 1972

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

MEDICINE LAKE NATIONAL WILDLIFE REFUGE
MEDICINE LAKE, MONTANA

ANNUAL WATER PROGRAM - 1972

I. Record of 1971 Water Use

A. Source of Supply

Run-off water from melting snow in March and April 1971, provided the major water supply for all refuge impoundments.

B. Type of Rights

The Bureau of Sport Fisheries and Wildlife through filings posted and recorded holds appropriative water rights as shown below. Two of the older wells have vested water rights.

Water Rights Filing No.	Source	Amount of Water Rights C.F.S.	Acres under Water Right
233163	Cottonwood Creek	100	3,640
233164	Sand Creek	75	3,640
233165	Lost Creek	25	840
233166	Sheep Creek	20	750
242886	Sheep Creek	300	2,287
233167	Lake Creek	100	3,640
233168	Big Muddy Creek	50	1,600 Homestead Lake
233169	Big Muddy Creek	1,200	2,000 Medicine Lake
Vested	Sandhill Well #1	3 gpm	None
Approp. (No.No.)	Sandhill Well #3	10 gpm	None
Vested	Old Hdqtrs. Well	300 gpm	None
Approp. (No.No.)	New Hdqtrs. Well	25 gpm	None

C. Purpose of Use

All appropriated creek waters were used for irrigation of lakes and marshes to produce wildlife food, habitat, control disease, and storage for late season water needs. All wells were used for livestock or domestic water use.

D. Season of Use

The main season of water use is from late March until early December each year. The water impoundments are frozen over from early December through March each year. The headquarters well is used throughout the year. The attached Annual Summary of Water Use form shows the period of use.

E. Quantity Used

A total of 20,949 acre feet of water entered the refuge via creek channels in 1971. An estimated 7.6 acre feet of water was pumped from four refuge wells. Of the previously mentioned 20,949 acre feet, 17,748 acre feet were released as excess to our needs.

F. Place of Use

The Annual Summary of Water Use form shows the general location and gives reference to the legal description of the place of use for all waters appropriated during 1971.

G. Adequacy of Supply

The water level in all impoundments filled to capacity in March and April. There was 17,748 acre feet of water excess to our needs.

Due to an exceptionally hot, dry, and windy August, most impoundments froze below operational level. The following chart shows monthly water levels in 1971.

MONTHLY RECORD OF GAUGE READINGS - 1971

IMPOUNDMENT	No. 4*	No. 6**	No. 10	No. 11	No. 12	Katy's L.
PRESENT						
OPER. LEVEL	1943.00	1937.65	1945.00	1951.54	1954.00	1954.00
January	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
February	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
March	Frozen	1937.12	1946.45	Frozen	Frozen	Frozen
April	1944.12	1937.58	1945.93	1951.98	1955.62	1954.62
May	1943.85	1937.43	1945.40	1950.88	1955.73	1954.70
June	1943.38	1937.50	1944.77		1955.24	1954.48
July		No gauge readings taken				
August	1941.34	1935.90	1944.01	1950.42	1953.86	1953.80
September	1940.56	1935.90	1943.28	1950.22	1953.16	1953.30
October		No gauge readings taken				
November	1940.42	1935.30	1943.20	1944.83	1953.06	1953.40
December	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen

All gauge readings as of the middle of the month.

* No. 4 - Medicine Lake

** No. 6 - Homestead Lake

Given below is a chart of the comparison of deficiencies in unit water levels at freeze up time during 1966-1971 period.

DEFICIENCY IN ACRE FEET AS OF DECEMBER 1

Impoundment	1966 ⁶⁷	1967 ⁶⁸	1968 ⁶⁹	1969 ⁷⁰	1970 ⁷¹	1971 ⁷²
Medicine Lake	*24,800	*13,000	16,700	4,000	8,700	21,950
Homestead Lake	* 2,600	* 3,600	8,000	*6,000	*2,300	* 2,820
Katy's Lake	242	678	300	** 0	** 0	136
No. 10 Lake	1,526	1,600	1,800	900	600	158
No. 11 Lake	440	380	500	100	400	1,273
No. 12 Lake	1,080	500	3,300	** 0	450	105
Total	30,688	19,758	27,600	11,000	12,450	26,442

* Water released for disease control or marsh management.

** No deficiency, at operational level.

II. Recommendations for 1972

We will need 26,442 or more acre feet of water to bring all impoundments up to operational level in the spring of 1971. We normally receive 25,000 or more acre feet each spring.

The following recommendations are offered for water management on Medicine Lake Refuge during 1972.

1. Current approved operational levels will be continued for 1972.
2. Impoundments will be filled as early in the spring as possible.
3. Homestead Lake has a tendency toward botulism. Often in the late summer the lake must be drawn down from ^{the fact. Ma} ~~the fact. Ma~~ recommend to continue these drawdowns. Homestead Lake should be refilled in ^{the fact. Ma} ~~the fact. Ma~~ botulism has passed. Homestead Lake of Medicine Lake.

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66 67 68 69 70

with Homestead
4. Hold water as high as possible for two the spring. This accomplishes several our systems management.

Pre-spr
lunch

 - A. Reduce gull production by reduce nesting islands.
 - B. Increase waterfowl production by increase pair use. (The high water will since they nest on the larger islands)
 - C. Provide spawning habitat for no quality fishing experience.
 - D. Provide additional nesting habitat for grebes and other over-the water nesting birds.

Code Deficiency
 26,442 1971

5. Water in excess of what is needed to obtain approved operational levels will be diverted downstream to the next impoundment. Excess water in Homestead Lake or Medicine Lake will be released back out into Muddy Creek.
6. The earthen dam placed across Sheep Creek by Alvin Erdahl of Froid, Montana, should be checked in the spring of 1972. In a year of low run-off this dam may deplete our water supply. In years of normal to high run-off its effect is negligible or none existent.
7. Proposed Water Use Priority

<u>Unit</u>	<u>Purpose</u>	<u>Priority</u>
Katy's Lake	Nesting and Rearing	1
No. 10 Lake	Nesting and Rearing	2
No. 11 Lake	Nesting and Rearing	1
No. 12 Lake	Nesting and Rearing	1
Gaffney Lake	Storage, nesting and Rearing	2
Medicine Lake	Storage, Nesting and Rearing	2
Homestead Lake	Nesting and Rearing	1

LAMESTEER NATIONAL WILDLIFE REFUGE

WIBAUX, MONTANA

ANNUAL WATER PROGRAM - 1972

1. Source of Supply

Spring run-off water entering the reservoir via Lamesteer Creek is the entire source of water for the Lamesteer Reservoir.

2. Type of Rights

A "Notice of Appropriation of Water" claiming 427 acre feet of water of Lamesteer Creek was posted on June 30, 1938, over the signature of Wilbert A. Rodgers, Administrative Assistant, Bureau of Biological Survey, as authorized agent for the Secretary of Agriculture. The fact of posting was recorded in Book 6 of Miscellaneous on page 345 in the Wibaux County Recorder's Office, Wibaux, Montana, on July 16, 1938.

3. Purpose of Use

During the 1971 season all waters were used for wildlife use and flood control as called for in the "Notice of Appropriation of Water".

4. Season of Use

Water usage on the refuge is on a yearlong basis with the heaviest demands being made during the ice free period of March through November when evaporation and transpiration rates are the greatest.

5. Quantity Used

The major water supply was derived from melting snow in April and May, 1971. The water level in Lamesteer Reservoir held up well all year and was only 11 inches below crest at freeze-up in November.

6. Place of Use

All appropriated waters were used within the boundaries of the SE $\frac{1}{4}$ of Section 14 and all of Sec. 15, T12N, R60E of Montana Principal Meridian, Wibaux County, Montana.

7. Adequacy of Supply

The water supply for Lamesteer reservoir was excellent this year. We have no way of knowing the acre feet of water that passed over the spillway, but estimate it was a substantial amount.

8. Recommendations for 1972

Actually the Lamesteer spillway is nonadjustable and the water is impounded up to crest elevation and then spills over the structure. During very high

run-off periods water will go around the emergency spillway on the south side. Our main recommendation is to hold all water to crest operational level for wildlife use.

There is evidence of an estimated 15 acres being put into irrigated cropland just south of the Lamesteer dam. This would bear watching in 1972. The owner of the land, Mr. Wallace Scott, can pump out of the overflow only. The Bureau has water rights on water in the impoundment. Any sign of pumping directly from the reservoir will be reported to the Regional Office.

NORTHEASTERN MONTANA WETLANDS

SHERIDAN, ROOSEVELT AND DANIELS COUNTIES, MONTANA

ANNUAL WATER PROGRAM - 1972

1. Source of Supply

The marshes, lakes, and ponds are dependent on spring run-off for water. The spring and summer rains may replenish some Type I's and III's.

2. Type of Rights

The Bureau has not filed water rights on any wetlands. A private landowner already has filed water rights on the marsh on which Sheridan County Tracts 42 and 66 are located.

3. Purpose and Season of Use

All water received is used for wildlife, water conservation and recreation. The ice free period (April - November) will be the season of greatest use.

4. Quantity and Place of Use

We have no way of measuring inflo of water into any of our WPA's.

5. Adequacy of Supply

Since many Type III marshes go dry in late summer, it is obvious that our water supply is generally inadequate for these smaller wetlands. A strong program of prayer and meditation may help alleviate the situation.

6. Recommendations for 1972

Two aerial surveillance should be flown to check for burning, draining or filling of easement wetlands.

If we receive funds for Increment I, five dams will be built to retain water for wildlife use and as a soil and moisture conservation measure.

Also dependent upon Increment I funding is monitoring of oil wells for possible pollution of wetlands.

Submitted by: Donald M. White
Date: January 7, 1972

Approved: _____

Date: _____